

QWIP WITH TUNABLE SPECTRAL RESPONSE

ABSTRACT OF THE DISCLOSURE

[0071] A tunable QWIP FPA device that is configured for spectral tunability for performing the likes of imaging and spectroscopy is disclosed. A selected bias voltage is applied across the contacts associated with a particular detector layer/channel of the device, where each applied bias corresponds to a particular target spectrum/color for detection. Each detector layer/channel can be coarse tuned for a bimodal or dual-band operation (e.g., MWIR/LWIR). Also, each detector layer/channel is configured for continuous or fine tuning within a particular mode (e.g., MWIR/MWIR). Thus, dynamic bias-controlled tuning is enabled. Asymmetric quantum well configurations enable this tunability.